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ABSTRACT

The Alaska School Effectiveness Project produced several reports in a series of reviews of research literature on such topics as computer-assisted instruction. Using an ERIC search and conventional library methods, the question raised was "Does computer-assisted instruction (CAI), when combined with traditional instruction, lead to higher achievement than traditional instruction alone?" The research findings made it clear that CAI is an effective supplement to traditional instruction. The evidence was not strong enough to support teaching by CAI exclusively; a combination approach seemed to work best. CAI was also popular with students and often improved their attitude toward subject matter. It is recommended that the use of CAI be actively promoted and expanded, especially in small schools in rural areas where it is difficult to offer full schedules of classes to limited numbers of students. It is also recommended that CAI be increased with low-achieving students and with students alienated by traditional teaching methods. Since the development of CAI programs may be beyond the capabilities of some small districts, it is recommended that the state lead in development efforts, providing both financial support and technical expertise. The document includes item decision displays, a 22 citation bibliography, and individual item reports on the citations. (BRR)

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ED214707

Topic Summary Report

COMPUTER-ASSISTED INSTRUCTION

Research on School Effectiveness Project

Prepared for:

Alaska Department of Education
Office of Planning and Research

December 12, 1980

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RC 01 32 42

PREFACE

This report is one of several in a series of reviews of research literature conducted for the Alaska School Effectiveness Project. Each of the reports addresses a topic which is deemed to have an impact, actual or potential, on school effectiveness. All of the reports have been generated using the same general approach and a common reporting format.

The review process begins with a topical literature search using both computer based ERIC and conventional library methods. Articles and other documents found are analyzed and abstracted into a brief form called an Item Report. Each of the items is then judged against a set of pre-established criteria and ranked on a five-point scale. The collection of Item Reports are then examined for purposes of identifying issues. These issues are stated in the form of hypotheses. Each hypothesis thus generated becomes the subject of a Decision Display. A Decision Display is created by sorting the Item Reports into those which support or negate the hypothesis, are inconclusive, are badly flawed, or are irrelevant. One or more Decision Displays are generated for each topic addressed. A Summary Report is then generated from the consideration of the Decision Displays and the file of Item Reports. Thus, each complete report in the series consists of a Summary Report which is backed up by one or more Decision Displays which in turn are supported by a file of Item Reports. This format was designed to accommodate those readers who might wish to delve into various depths of detail.

This report is not intended to represent the "final word" on the topic considered. Rather, it represents the analysis of a particular collection of research documents at this time. There may be other documents that were not found because of time or other limitations. There may be new research published tomorrow. This present report represents our best judgment of available information at this time. This format allows for modification and re-analysis as new information becomes available or old information is re-interpreted.

For a more complete description of the analysis process see William G. Savard, Procedures for Research on School Effectiveness Project, Northwest Regional Educational Laboratory, December 10, 1980.

Topic: Computer-Assisted Instruction
Authors: P. Rapaport/W. G. Savard
Date: December 12, 1980

Overview

Educators have recently begun to examine computer-assisted instruction (CAI) more closely, due to the recent slashing of computer costs caused by the technological advances which produced the mini- and micro-computer. These technological advances have rendered obsolete CAI cost information which is over two years old. Micro-computers with enough power to provide CAI practice, problem solving and simulation are now quite inexpensive, some costing less than $2,000. Over a four-year period, such a system could cost less than $1 per student hour, including courseware, thus making CAI increasingly attractive from the financial point of view. There are also new levels of convenience. When CAI was first tried on a large scale, the it was necessary to bring the students to the computer terminals. The present state of the art brings the computer to the student and requires no communication costs, no special operating personnel and little or no modification of facilities. The basic remaining question then is, how well does it work in promoting student learning?

Major Findings

Achievement. The studies covered in this report are generally well-designed and show remarkable consistency in their findings. Almost every study finds that traditional instruction, supplemented by CAI, leads to higher achievement than traditional instruction alone. Two of the three reviews which are included in this report failed to report a single case of contradictory findings. Even the extensive review by Thomas (1979) could only uncover one secondary typing course, one college accounting class and one

community college course where traditional instruction was found to be superior. All the elementary studies, and virtually all the secondary studies report achievement gains by the students receiving CAI.

Studies of CAI as a replacement for traditional instruction are not as conclusive. Most of the studies reviewed by Edwards and her colleagues (1975) do not find CAI alone superior to traditional instruction alone. However, nearly half of those studies do find higher achievement in the CAI group.

A very few of the studies reported differences in the effectiveness of CAI based upon characteristics of the students. Three studies report that CAI is more effective for low ability students than for high ability students. Two other studies report that boys benefit from CAI more than girls do, but one study fails to find any differences. However, both of these findings may be caused by a ceiling effect; in both cases, the groups which improved the most had the most room to improve.

Attitude. Most studies find that CAI students have a better attitude toward the subject matter than students who received traditional instruction alone. Many studies do not find a difference in attitude, and Thomas's review found one study with more negative attitudes in the CAI study. This was in the same community college study which found less achievement in one of the CAI groups. The usual finding is that students have a very positive and enthusiastic response to the CAI course.

Other Findings. All of the studies which reported the amount of time taken by students to learn the material found that, compared with traditionally instructed students, CAI students complete the same material in2less time or more material in the same time. There is no consistent evidence that there is any difference in the retention rates of CAI and traditionally instructed students. Thomas (1979) reviewed three studies which show that students can be assigned to share terminals and still achieve as much as students assigned to individual terminals.

Conclusions

The research findings make it clear that CAI is an effective supplement to traditional instruction. The evidence is not strong enough to support teaching by CAI exclusively; a combination approach seems to work best. Computer-assisted instruction is also popular with students and often improves their attitude toward the subject matter. The CAI approach usually results in the students learning more material in a given time period, or the same amount of material in less time. Fears that students would forget CAI learned material more easily than traditionally learned materials appear to be unfounded although findings in this area are mixed or inconclusive.

Recommendations

It is recommended that the use of computer-assisted instruction be actively promoted and expanded. This would be especially important for small schools in rural areas where it is difficult to offer full schedules of classes to limited numbers of students. It is also recommended that the use of computer-assisted instruction be increased with low-achieving students and with students who tend to be alienated by traditional teaching methods.

It is recognized that the development of CAI programs may be beyond the capabilities of some small districts. It is therefore recommended that the state take a leadership role in such development efforts, providing both financial support and technical expertise.

COMPUTER-ASSISTED INSTRUCTION
Decision Display
#1

Restatement of issue as a hypothesis:

Computer-Assisted Instruction, when combined with traditional instruction, leads to higher achievement than traditional instruction alone.

Item Number	Short Title	Quality Rating of Study [ ]	
Items which tend to support hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	(All studies support)
60	Fletcher & Atkinson, 1972, Stanford CAI	[4]	
20	Modisett, 1980, CAI, Remedial Math	[4]	
59	Thomas, 1979, CAI review	[4]	(52 studies support)
26	Vincent, 1977, CAI, Special Education	[4]	
8	Wilson, 1980, CAI Review	[4]	(19 studies support)
35	Leunetta & Blick, 1973, CAI, Physics	[3]	
21	Litman, 1977, CAI, Reading	[3]	
19	Pachter, 1979, CAI, Math	[3]	
3	Ragosta, et al., 1980, CAI Longitudinal Study	[3]	
17	Wilkinson, 1979, CAI, PLAN	[3]	
13	Wilson & Fitzgibbon, 1970, CAI, English	[3]	
22	Haberman, 1977, CAI, Disturbed Children	[2]	
Items which tend to deny hypothesis:			
59	Thomas, 1979, CAI Review	[4]	(3 studies deny)
Items which are inconclusive regarding the hypothesis:			
59	Thomas, 1979, CAI Review	[4]	(4 studies inconclusive)
8	Wilson, 1980, CAI Review	[4]	(2 studies inconclusive)
Items which were excluded because they were weak:			
25	Annelli, 1977, CAI Reading	[1]	
5	Menis, et al., 1980, CAI, Algebra	[1]	

Items which were excluded because they were judged to be irrelevant to this hypothesis:

7	Martin, 1973, CAI, Drill and Practice	[3]
16	Cassie, 1977, CAI, Career Education	[2]
18	Schaeffer, 1979, CAI, College German Drill Practice	
23	Drake, 1978, CAI, Guidance	[2]
24	Beck, 1979, CAI, Student Attitude	
61	Beck, 1979, CAI, Attitude	
62	Suppes, et al., 1968, CAI, Arithmetic	

COMPUTER-ASSISTED INSTRUCTION
Decision Display
#2

Restatement of issue as a hypothesis:

CAI alone leads to higher achievement than traditional instruction alone.

Item Number	Short Title	Quality Rating of Study [ ]	
Items which tend to support hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	(9 studies support)
Items which tend to deny hypothesis:			
	None		
Items which are inconclusive regarding the hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	(11 studies inconclusive)
Items which were excluded because they were weak:			
	None		
Items which were excluded because they were judged to be irrelevant to this hypothesis:			
60	Fletcher & Atkinson, 1972, Stanford CAI	[4]	
20	Modisett, 1980, CAI, Remedial Math	[4]	
59	Thomas, 1979, CAI Review	[4]	
26	Vincent, 1977, CAI, Special Education	[4]	
8	Wilson, 1980, CAI Review	[4]	
35	Leunetta & Blick, 1973, CAI, Physics	[3]	
21	Litman, 1977, CAI, Reading	[3]	
19	Pachter, 1979, CAI, Math	[3]	
3	Ragosta, et al., 1980, CAI Longitudinal Study	[3]	

Items which were excluded because they were judged to be irrelevant to this hypothesis: (Continued)

17	Wilkinson, 1979, CAI, PLAN	[3]
13	Wilson & Fitzgibbon, 1970, CAI, English	[3]
25	Annelli, 1977, CAI, Reading	[1]
5	Menis, et al., 1980, CAI, Algebra	[1]
16	Cassie, 1977, CAI, Career Education	[2]
18	Schaeffer, 1979, CAI, College German Drill Practice	
23	Drake, 1978, CAI, Guidance	[2]
24	Beck, 1979, CAI, Student Attitude	
61	Beck, 1979, CAI, Attitude	
62	Suppes, et al., 1968, CAI, Arithmetic	

COMPUTER-ASSISTED INSTRUCTION
Decision Display
#3

Restatement of issue as a hypothesis:

Computer-Assisted Instruction leads to better attitudes toward the subject matter than are found in students receiving traditional instruction.

Item Number	Short Title	Quality Rating of Study [ ]	
Items which tend to support hypothesis:			
59	Thomas, 1979, CAI Review	[4]	(10 studies support)
26	Vincent, 1977, CAI, Special Education	[4]	
8	Wilson, 1980, CAI Review	[4]	(21 studies support)
19	Pachter, 1979, CAI, Math	[3]	
Items which tend to deny hypothesis:			
59	Thomas, 1979, CAI Review	[4]	(1 study deny)
Items which are inconclusive regarding the hypothesis:			
59	Thomas, 1979, CAI Review	[4]	(7 studies inconclusive)
8	Wilson, 1980, CAI Review	[4]	(21 studies inconclusive)
35	Leunetta & Blick, 1973, CAI, Physics	[3]	
Items which were excluded because they were weak:			
	None		
Items which were excluded because they were judged to be irrelevant to this hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	
60	Fletcher & Atkinson, 1972, Stanford CAI	[4]	
20	Modisett, 1980, CAI, Remedial Math	[4]	
21	Litman, 1977, CAI, Reading	[3]	
7	Martin, 1973, CAI, Drill and Practice	[3]	
3	Ragosta, et al., 1980, CAI, Longitudinal Study	[3]	

Items which were excluded because they were judged to be irrelevant to this hypothesis: (Continued)

17	Wilkinson, 1979, CAI, PLAN	[3]
13	Wilson & Fitzgibbon, 1970, CAI, English	[3]
25	Annelli, 1977, CAI. Reading	[1]
5	Menis, et al., 1980, CAI, Algebra	[1]
16	Cassie, 1977, CAI, Career Education	[2]
18	Schaeffer, 1979, CAI, College German Drill Practice	
23	Drake, 1978, CAI, Guidance	[2]
24	Beck, 1979, CAI, Student Attitude	
61	Beck, 1979, CAI, Attitude	
62	Suppes, et al., 1968, CAI, Arithmetic	

COMPUTER-ASSISTED INSTRUCTION
Decision Display
#4

Restatement of issue as a hypothesis:

Students receiving CAI complete the same materials as traditionally instructed students in less time, or they complete more material in the same time.

Item Number	Short Title	Quality Rating of Study [ ]
Items which tend to support hypothesis:		
6	Edwards, et al., 1975, CAI Review	[4] (9 studies support)
59	Thomas, 1979, CAI Review	[4] (10 studies support)
8	Wilson, 1980, CAI Review	[4] (2 studies support)
Items which tend to deny hypothesis:		
	None	
Items which are inconclusive regarding the hypothesis:		
	None	
Items which were excluded because they were weak:		
	None	
Items which were excluded because they were judged to be irrelevant to this hypothesis:		
60	Fletcher & Atkinson, 1972, Stanford CAI	[4]
20	Modisett, 1980, CAI, Remedial Math	[4]
26	Vincent, 1977, CAI, Special Education	[4]
35	Leunetta & Blick, 1973, CAI, Physics	[3]
21	Litman, 1977, CAI, Reading	[3]
7	Martin, 1973, CAI, Drill and Practice	[3]
19	Pachter, 1979, CAI, Math	[3]
3	Ragosta, et al., 1980, CAI Longitudinal Study	[3]

Items which were excluded because they were judged to be irrelevant to this hypothesis: (Continued)

17	Wilkinson, 1979, CAI, PLAN	[3]
13	Wilson & Fitzgibbon, 1970, CAI, English	[3]
25	Annelli, 1977, CAI, Reading	[1]
5	Menis, et al., 1980, CAI, Algebra	[1]
16	Cassie, 1977, CAI, Career Education	[2]
18	Schaeffer, 1979, CAI, College German Drill Practice	
23	Drake, 1978, CAI, Guidance	[2]
24	Beck, 1979, CAI, Student Attitude	
61	Beck, 1979, CAI, Attitude	
62	Suppes, et al., 1968, CAI, Arithmetic	

COMPUTER-ASSISTED INSTRUCTION
Decision Display
#5

Restatement of issue as a hypothesis:

CAI students forget the material they have learned over long periods more than traditionally instructed students forget.

Item Number	Short Title	Quality Rating of Study [ ]	
Items which tend to support hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	(9 studies support)
8	Wilson, 1980, CAI Review	[4]	(2 studies support)
Items which tend to deny hypothesis:			
8	Wilson, 1980, CAI Review	[4]	(2 studies deny)
Items which are inconclusive regarding the hypothesis:			
6	Edwards, et al., 1975, CAI Review	[4]	(9 studies inconclusive)
59	Thomas, 1979, CAI Review	[4]	(10 studies inconclusive)
8	Wilson, 1980, CAI Review	[4]	(2 studies inconclusive)
35	Leunetta & Blick, 1973, CAI, Physics	[3]	
Items which were excluded because they were weak:			
	None		
Items which were excluded because they were judged to be irrelevant to this question:			
60	Fletcher & Atkinson, 1972, Stanford CAI	[4]	
20	Modisett, 1980, CAI, Remedial Math	[4]	
26	Vincent, 1977, CAI, Special Education	[4]	
21	Litman, 1977, CAI, Reading	[3]	
7	Martin, 1973, CAI, Drill and Practice	[3]	
19	Pachter, 1979, CAI, Math	[3]	
3	Ragosta, et al., 1980, CAI Longitudinal Study	[3]	

Items which were excluded because they were judged to be irrelevant to this hypothesis: (Continued)

17	Wilkinson, 1979, CAI, PLAN	[3]
13	Wilson & Fitzgibbon, 1970, CAI, English	[3]
25	Annelli, 1977, CAI, Reading	[1]
5	Menis, et al., 1980, CAI, Algebra	[1]
16	Cassie, 1977, CAI, Career Education	[2]
18	Schaeffer, 1979, CAI, College German Drill Practice	
23	Drake, 1978, CAI, Guidance	[2]
24	Beck, 1979, CAI, Student Attitude	
61	Beck, 1979, CAI, Attitude	
62	Suppes, et al., 1968, CAI, Arithmetic	

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5 Menis, Y., Snyder, M., and Ben-Kohav, E. Improving achievement in algebra by means of the computer. Educational Technology, August 1980, 20, 19-22.

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SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 3 LOCATION: NWREL Information Center

REVIEWER: P. Rapaport DATE REVIEWED: 11/10/80

CITATION: Ragosta, M., Jamison, D. T., Juhnke, W., Woodson, R. and Holland, P. W. Computer-assisted instruction: a longitudinal study. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, April 1980. (From Wilson 1980)

DESCRIPTORS: Media, Computer-Assisted Instruction

SHORT TITLE: Ragosta, et al., 1980. Computer-Assisted Instruction Longitudinal Study

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE X DISSERTATION ABSTRACT ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

Insufficient details were given in this secondary source to fully judge the quality of the study.

SYNOPSIS:

Supplementary CAI instruction was given using the Computer Curriculum Corporation (CCC) for fourth-sixth grades in mathematics, reading and language. All students were pretested at the beginning of fourth grade and posttested at the end of sixth grade. CAI students received three drill and practice applications from the CCC. Not all groups received all three topics. The control group did not receive any CAI. It is not clear from the description whether different groups received all possible permutations of treatments or how many students were tested.

ITEM NUMBER: 3 SHORT TITLE: Ragosta, et al., 1980
Computer-Assisted Instruction
Longitudinal Study

RESEARCHER'S FINDINGS:

Students who used all three curricula scored significantly higher gains on vocabulary subtest of the California Test of Basic Skills vs the control group. Those who worked with CAI mathematics but not the other two scored lower on a reading test than students who received CAI in reading and language arts. The reading and language arts curricula had more effect on language arts scores than on reading scores.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 5 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/10/80

CITATION: Menis, Y., Snyder, M., and Ben-Kohav, E. Improving achievement in algebra by means of the computer. Educational Technology, August 1980, 20, 19-22.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Menis, et al., 1980. Computer-Assisted Instruction, Algebra

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE X SECONDARY SOURCE ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) [1] 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

The design fails to take into account regression towards the mean. The control group were students around average. The experimental group were weak students and they show a little improvement in the weak students which is to be expected from regression towards the mean. This is a fatal comfound. In addition, the difference in attitude change may be caused by a floor effect.

SYNOPSIS:

High school students were split up into "weak in math" and others and the "weak in math" students were given computer assisted instruction in mathematics. Their affective and achievement ratings were taken again at the end of the year. The sample consisted of 402 tenth grade mathematics students in Israel in three different high schools. One hundred forty six were in the "weak in math" group.

ITEM NUMBER: 5 SHORT TITLE: Menis, et al., 1980
Computer-Assisted Instruction
Algebra

RESEARCHER'S FINDINGS:

The experimental group improved their grade by half a mark, but still averaged below failing. The control group did not improve their marks. The experimental group did not decrease their liking of math as much as the control group did. The experimental group started out not liking math as well.

RESEARCHER'S CONCLUSIONS:

The use of this program should be extended to English.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 6 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/10/80

CITATION: Edwards, J., Norton, S., Tailor, S., Weise, M., VanDusseldorp, R. How effective is CAI?, a review of the research. Educational Leadership, 1975, 33, 147-153.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Edwards, et al., 1975. Computer-Assisted Instruction Review

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE X SECONDARY SOURCE ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 [4] 5 (Strong)

BRIEF DISCUSSION OF RATING:

This is a relatively good review but it is not very extensive, having been written for an audience of administrators rather than researchers.

SYNOPSIS:

This paper reviews 33 studies on achievement gain due to CAI.

ITEM NUMBER: 6 SHORT TITLE: Edwards, et al., 1980
Computer-Assisted Instruction
Review

RESEARCHER'S FINDINGS:

They find that when CAI is an addition to standard teaching, all studies find significant improvement. Sometimes the improvement is very substantial. When CAI is a substitute for traditional instruction, it sometimes showed gains (nine studies showed a gain and eight showed little or no difference, three studies showed mixed results). When CAI has been compared to individual tutoring, language laboratory, programmed instruction, and filmstrips, several of the studies that do not show achievement gains do show that it takes less time for the CAI students to make those gains. There is a question about whether the CAI students retain as much as traditionally taught students. Two studies showed that they don't, one study showed no difference. Two studies found that CAI are more effective for low ability students than for high ability.

RESEARCHER'S CONCLUSIONS:

CAI is definitely useful as a supplement to regular teaching. It is unclear whether CAI is an adequate substitute for regular teaching.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 7 LOCATION: NWREL Information Center

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Martin, G. R. TIES, research project report: the 1972-73 drill and practice study. Minnesota School District's Data Processing Joint Board, St. Paul Minnesota, 1973. (From Wilson 1980)

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Martin, 1973. Computer-Assisted Instruction Drill and Practice

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE X DISSERTATION ABSTRACT ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

Insufficient description is given in this secondary source.

SYNOPSIS:

None.

ITEM NUMBER: 7 SHORT TITLE: Martin, 1973
Computer-Assisted Instruction
Drill and Practice

RESEARCHER'S FINDINGS:

CAI drill and practice in arithmetric are more effective for low ability students than for average or high ability students.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 8 LOCATION: NWREL Information Center

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Wilson, R. The effectiveness of computer-assisted instruction: a survey of the research. Northwest Regional Educational Laboratory, Computer Technology Program, Portland, Oregon, 1980.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Wilson, 1980. Computer-Assisted Instruction Review

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 [4] 5 (Strong)

BRIEF DISCUSSION OF RATING:

This is a good review, though not extensive, with good conclusions.

SYNOPSIS:

Wilson reviews 25 studies, mostly from ERIC and Dissertation Abstracts International.

ITEM NUMBER: 8 SHORT TITLE: Wilson, 1980
Computer-Assisted Instruction Review

RESEARCHER'S FINDINGS:

Seventeen studies are reported which show increased achievement in mathematics and in English. One study is reported showing higher achievement scores in social studies. One study is reported which did not find higher achievement in physics, but did show improved student affect. Three studies show that computer-assisted career guidance is effective. One study showed improved German semantic meaning due to CAI drill and practice, but another study shows no such gains in beginning French. All studies show either equivalent attitudes or better attitudes for CAI students. Wilson does not give the relative proportions of studies. Wilson quotes two reviews which show nine and ten studies which find that CAI students do at least as well as traditional instruction in less time. The six studies discussed were equally split show more, equal or less long-term retention for CAI students. Two studies showed less teacher-student interactions in CAI classes than in traditional classes.

RESEARCHER'S CONCLUSIONS:

CAI is effective for all subjects studied when used in conjunction with traditional methods. CAI leads to higher achievement and improved student attitude. Several studies suggest that similar gains can be made in less time by CAI alone, but the research is not conclusive. The evidence is not capable of supporting conclusions about long-term retention of CAI vs traditional students.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 10 LOCATION: NWREL Info. Cntr. Periodicals

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Barth, R. S. How to ensure an effective principalship. The National Elementary Principal, 1980, 59(3), 10-20.

DESCRIPTORS: Principals, Instructional Leadership

SHORT TITLE: Barth, 1980, Ensuring Effective Principalship

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

SYNOPSIS:

ITEM NUMBER: 10 SHORT TITLE: Barth, 1980
Ensuring Effective Principalship

RESEARCHER'S FINDINGS:

RESEARCHER'S CONCLUSIONS:

REVIEWER'S NOTES AND COMMENTS:

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 11 LOCATION: NWREL Info. Cntr. Periodicals

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Mullican, F., and Ainsworth, L. The principal as instructional leader. Theory into Practice, 1979, 18, 33-38.

DESCRIPTORS: Role of Principal as Instructional Leader

SHORT TITLE: Mullican, et al., 1979, Principal as Instructional Leader

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

SYNOPSIS:

ITEM NUMBER: 11 SHORT TITLE: Mullican, et al, 1979
Principal as Instructional Leader

RESEARCHER'S FINDINGS:

RESEARCHER'S CONCLUSIONS:

REVIEWER'S NOTES AND COMMENTS:

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 12 LOCATION: NWREL Info. Cntr. Periodicals

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Ford, P., The principal-contract administrator and instructional leader. NASSP Bulletin, 1980, 64(433), 37-43.

DESCRIPTORS: Role of Principal as Instructional Leader

SHORT TITLE: Ford, 1980, Principal as Instructional Leader

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

SYNOPSIS:

ITEM NUMBER: 12 SHORT TITLE: Ford, 1980
Principal as Instructional Leader

RESEARCHER'S FINDINGS:

RESEARCHER'S CONCLUSIONS:

REVIEWER'S NOTES AND COMMENTS:

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 13 LOCATION:

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Wilson. H. A. and Fitzgibbon, N. H. Practice and perfection: a preliminary analysis of achievement data from the CAI elementary english program. Elementary English, 1970, 47, 576-579.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Wilson & Fitzgibbon, 1970. Computer-Assisted Instruction English

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE X SECONDARY SOURCE ___ DISSERTATION ABSTRACT ___

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

There was no random selection. Control Group 2 was from a lower SES setting than other groups.

SYNOPSIS:

One hundred and eighty-seven fourth and fifth graders from two schools in Pontiac, Michigan, were the subjects. Sixty-eight students in the experimental group received English CAI drill within the normal class setting. Forty-two students in Control Group 1 received CAI in Math, and 77 students in Control Group 2 received traditional instruction only. Pre and posttests were administered.

ITEM NUMBER: 13 SHORT TITLE: Wilson & Fitzgibbon, 1970
Computer-Assisted Instruction
English

RESEARCHER'S FINDINGS:

The experimental group gained seven months achievement in four. Both control groups gained three months ($p < .05$). Student reaction to the CAI program was good.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 16 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Cassie, J. R. B. An assessment of the effects of a computer-assisted career information service on the CAREER maturity of Ontario students in grades nine, ten, and eleven. Unpublished doctoral dissertation, SUNY, Buffalo, 1976.

DESCRIPTORS: Counseling and Guidance, Computer-Assisted Instruction

SHORT TITLE: Cassie, 1977
Computer-Assisted Instruction, Career Education

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 [2] 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

Groups were not treated the same at different schools but not enough details are given to know how serious a problem this is.

SYNOPSIS:

The effects of computer career guidance on 3,600 ninth, tenth and eleventh grade Ontario students were tested. Six hundred students were selected randomly from the appropriate grades of each of six high schools. Students were pre and posttested on the Career Maturity Inventory at four schools, but were only posttested at two schools. Students were assigned to control or treatment groups controlling for grade and sex.

ITEM NUMBER: 16 SHORT TITLE: Cassie, 1977
Computer-Assisted Instruction
Career Education

RESEARCHER'S FINDINGS:

Short term use of system results in significant gains in career maturity. Detailed results are not available in the abstract.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 17 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Wilkinson, J. H. The effectiveness of an individualized, computer-assisted instructional program (PLAN) with students from a low socio-economic community. Unpublished doctoral dissertation. St. John's University, 1979.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Wilkinson, 1979
Computer-Assisted Instruction, PLAN

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

Insufficient details were presented.

SYNOPSIS:

The subjects were 195 junior high school students in a parochial school in "inner city" New York. Eight-four were men and 111 were women. All subjects were black or hispanic. The experimental group consisted of 95 subjects. They received a CAI program called PLAN. The control group received traditional instruction only. Following the program, all subjects were tested on the SRA Achievement Test for mathematics, reading, social studies, language arts and science achievement. The Coopersmith Self-Esteem Inventory was also administered. No details were presented about PLAN.

ITEM NUMBER: 17 SHORT TITLE: Wilkinson, 1979
Computer-Assisted Instruction, PLAN

RESEARCHER'S FINDINGS:

The PLAN students showed significant improvement in mathematics, reading, and social studies achievement scores. No details were presented.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 18 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Schaeffer, R. H., Computer-supplemented structural drill practice versus computer-supplemented drill practice by beginning college german students: a comparative experiment. Unpublished doctoral dissertation, Ohio State University, 1979.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Schaeffer, 1979
Computer-Assisted Instruction, College German Drill Practice

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

SYNOPSIS:

ITEM NUMBER: 18 SHORT TITLE: Schaeffer, 1979
Computer-Assisted Instruction
College German Drill Practice

RESEARCHER'S FINDINGS:

RESEARCHER'S CONCLUSIONS:

REVIEWER'S NOTES AND COMMENTS:

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 19 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Pachter, S. N. A computer-assisted tutorial module for teaching the factoring of second degree polynomials to regents level ninth year mathematics students. Unpublished doctoral dissertation, Columbia University Teachers College, 1979.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Pachter, 1979
Computer-Assisted Instruction, Math

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

The abstract contained insufficient information.

SYNOPSIS:

The subjects were low achieving mathematics students at Lawrence High School. The abstract does not provide the number of subjects or information on a pretest. The experimental group was given CAI in the solution of second degree polynomials. Their absenteeism and their scores on an achievement posttest were then compared to other control groups.

ITEM NUMBER: 19 SHORT TITLE: Pachter, 1979
Computer-Assisted Instruction, Math

RESEARCHER'S FINDINGS:

The experimental group showed higher achievement and interest than the control group. The control grup had a higher rate of absenteeism than the experimental group. No actual scores or significance levels were reported in the abstract.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 20 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Modisett, D. M. Effects of computer-assisted instruction on achievement in remedial secondary mathematical computation. Unpublished doctoral dissertation, Fordan University, 1980.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Modisett, 1980. Computer-Assisted Instruction, Remedial Math

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 [4] 5 (Strong)

BRIEF DISCUSSION OF RATING:

This appears to be a good, well-controlled study.

SYNOPSIS:

This study compared CAI to workbooks for remedial math work. The subjects were 72 low achieving ninth, tenth and eleventh grade students attending public school in Mahwah, New Jersey in the 1977-78 school year. Subjects received pre and posttests. Type of pupil, time spent in remedial setting (10 minutes a day for 85 school days), regular classroom instruction, and the content of the remedial work were the variables which were controlled for. The number of problems completed was not controlled for (CAI students completed 32.6 units per day vs 18.2 for workbook students).

ITEM NUMBER: 20 SHORT TITLE: Modisett, 1980
Computer-Assisted Instruction
Remedial Math

RESEARCHER'S FINDINGS:

The students in the CAI group averaged 10.5 months of growth in computational skills, versus 4.7 months for the workbook group ($p < .05$). The workbook group cost $24.67 per pupil versus $86.72 for the CAI students. The cost per month of achievement gain was $5.25 per month for the workbook students as opposed to $8.25 for the CAI students.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 21 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Litman, G. H. Relationship between computer-assisted instruction and reading achievement among fourth, fifth and sixth grade students. Unpublished doctoral dissertation, Northern Illinois University, 1977.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Litman, 1977. Computer-Assisted Instruction, Reading

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 [3] 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

Insufficient details are given.

SYNOPSIS:

An unspecified number of fourth, fifth and sixth grade boys and girls were given a pretest. Some were then given CAI instruction for most of a school year, while the control group received no CAI. A posttest (the Iowa Test of Basic Skills) was given to all the students at the end of the year and then again at the end of the following year.

ITEM NUMBER: 21 SHORT TITLE: Litman, 1977
Computer-Assisted Instruction
Reading

RESEARCHER'S FINDINGS:

Fourth and fifth grade males receiving computer-assisted instruction drill and practice scored significantly higher in both post tests than males who received no CAI. No significant differences were found for females or sixth grade males. No other details were given.

RESEARCHER'S CONCLUSIONS:

Computer-Assisted Instruction is viable because the score differences are big, the cost is low and it is effective for middle grades which is unusual for remedial reading programs.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 22 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Haberman, E. L. Effectveness of computer-assisted instruction with socially/emotionally disturbed children. Unpublished doctoral dissertation, University of Pittsburgh, 1977.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Haberman, 1977. Computer-Assisted Instruction Disturbed Children

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 [2] 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

The abstract was inadequate. It was not possible to adequately rate the quality of the study from the abstract.

SYNOPSIS:

Eighteen subjects, classified as socially/emotionally distrubed, were separated into nine matched pairs. The experimental students were given an unspecified CAI program. The abstract does not specify the treatment of the control group, nor what tests were given nor the age of the subjects.

ITEM NUMBER: 22 SHORT TITLE: Haberman, 1977
Computer-Assisted Instruction
Disturbed Children

RESEARCHER'S FINDINGS:

After two months, CAI students had higher achievement scores. Details of the results were not presented.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 23 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Drake, J. W. The effects of a computer-assisted career guidance support system upon the vocational maturity of high school sophomores. Unpublished doctoral dissertation, Wayne State University, 1978.

DESCRIPTORS: Counseling and Guidance, Computer-Assisted Instruction

SHORT TITLE: Drake, 1978. Computer-Assisted Instruction, Guidance

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 [2] 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

There were no pretests so differences in posttest scores could have been due to initial differences between students at different schools.

SYNOPSIS:

Drake studied 320 sophomores in Genesee County, Michigan, suburban high schools. One hundred and sixty students in two schools constituted the experimental group. One hundred and sixty students in two other schools made up the control group. No pretest is described. The experimental group received computer vocational guidance. The abstract does not specify the guidance available to the control group. A posttest was given but the type of test is not specified.

ITEM NUMBER: 23 SHORT TITLE: Drake, 1978
Computer-Assisted Instruction
Guidance

RESEARCHER'S FINDINGS:

CAI students were higher in vocational maturity ($p < .05$). Internal focus of control students were greater than external students in vocational math ($p < .05$). CAI girls outperformed CAI boys in vocational math ($p < .05$).

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 24 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Beck, J. J. Jr. An analysis of student attitude toward computer-assisted instruction in Nebraska public high schools. Unpublished doctoral dissertation, Univeristy of Nebraska, 1979.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Beck, 1979. Computer-Assisted Instruction Student Attitude

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS X

RELEVANT ___ IRRELEVANT ✓ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

SYNOPSIS:

ITEM NUMBER: 24 SHORT TITLE: Beck, 1979
Computer-Assisted Instruction
Student Attitude

RESEARCHER'S FINDINGS:

RESEARCHER'S CONCLUSIONS:

REVIEWER'S NOTES AND COMMENTS:

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 25 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Annelli, C. M. Computer-assisted instruction and reading achievement of urban third and fourth graders. Unpublished doctoral dissertation, Rutgers University, 1977.

DESCRIPTORS: Computer-Assisted Instruction

SHORT TITLE: Annelli, 1977. Computer-Assisted Instruction, Reading

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) [1] 2 3 4 5 (Strong)

BRIEF DISCUSSION OF RATING:

There was no control group and there were contraditions in descriptions of methods. Comparison of groups with little differences in treatment leads to little difference in results.

SYNOPSIS:

Twelve groups of third and fourth grade boys and girls, enrolled in three Newark, New Jersey schools were all given CAI. There are three undescribed treatment levels. These three levels were crossed with sex and whether or not the subjects got more or less than four hours of CAI to produce twelve groups. There was no control group. The abstract does not state the number of subjects per group.

ITEM NUMBER: 25 SHORT TITLE: Annelli, 1977
Computer-Assisted Instruction
Reading

RESEARCHER'S FINDINGS:

The only significant differences found were that girls did better than boys.

RESEARCHER'S CONCLUSIONS:

Girls did better than boys because girls "inclined to adjust their responses to the requirements of the CAI program rather than respond according to their inner convictions."

REVIEWER'S NOTES AND COMMENTS:

None.

SCHOOL EFFECTIVENESS PROJECT, ITEM REPORT

ITEM NUMBER: 26 LOCATION: Portland State University

REVIEWER: P. Rapaport DATE REVIEWED: 11/80

CITATION: Vincent, A. T. The effects of supplementary computer-assisted instruction on the mathematics achievement and attitude toward mathematics of EMR high school students. Unpublished doctoral dissertation, University of Cincinnati, 1977.

DESCRIPTORS: Computer-Assisted Instruction, Special Education

SHORT TITLE: Vincent, 1977. Computer-Assisted Instruction, Special Education

SKIMMED, REJECTED FOR PROJECT PURPOSES, NO ANALYSIS ___

RELEVANT ✓ IRRELEVANT ___ FOR PRESENT PURPOSE

PRIMARY SOURCE ___ SECONDARY SOURCE ___ DISSERTATION ABSTRACT X

RATING OF QUALITY OF STUDY (for project purposes):

(Weak) 1 2 3 [4] 5 (Strong)

BRIEF DISCUSSION OF RATING:

This appears to be a well-controlled study from the abstract description.

SYNOPSIS:

Seventy educable mentally retarded (EMR) students from two metro high schools were randomly assigned to the experimental group (n=31) or the control group. The control group received no CAI. The experimental group received a CAI mathematics curriculum developed at Stanford. All subjects were pre and posttested on the Wide Range Achievement Test and the Spikerman Mathematics Attitude Instrument.

ITEM NUMBER: 26 SHORT TITLE: Vincent, 1977
Computer-Assisted Instruction
Special Education

RESEARCHER'S FINDINGS:

CAI students did better ($p<.05$) on the achievement test and had better attitude towards math ($p<.05$). No significant race, sex or grade level main effect were found. Demographic characteristics and time on terminal did not have any effect.

RESEARCHER'S CONCLUSIONS:

None drawn.

REVIEWER'S NOTES AND COMMENTS:

None.